

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2005-20852; Directorate Identifier 2004-NM-240-AD; Amendment 39-14175; AD 2005-13-38]**

**RIN 2120-AA64**

### **Airworthiness Directives; Bombardier Model DHC-8-100, DHC-8-200, and DHC-8-300 Series Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Bombardier Model DHC-8-100, DHC-8-200, and DHC-8-300 series airplanes. This AD requires revising the airworthiness limitations section of the Instructions for Continued Airworthiness by incorporating new and revised structural inspection procedures and new and revised inspection intervals for the longitudinal skin joints in the fuselage pressure shell. This proposed AD also requires phase-in inspections and repair of any crack found during any phase-in inspection. This AD is prompted by a report indicating that visual inspections were not adequate for detecting fatigue cracking in portions of the longitudinal skin joints in the fuselage pressure shell. We are issuing this AD to detect and correct fatigue cracking of the longitudinal skin joints in the fuselage pressure shell, which could affect the structural integrity of the airplane, and result in loss of cabin pressurization during flight.

**DATES:** This AD becomes effective August 9, 2005.

The incorporation by reference of certain publications listed in the AD is approved by the Director of the Federal Register as of August 9, 2005.

**ADDRESSES:** For service information identified in this AD, contact Bombardier, Inc., Bombardier Regional Aircraft Division, 123 Garratt Boulevard, Downsview, Ontario M3K 1Y5, Canada.

*Docket:* The AD docket contains the proposed AD, comments, and any final disposition. You can examine the AD docket on the Internet at <http://dms.dot.gov>, or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the U.S. Department of Transportation, 400 Seventh Street SW., room PL-401, Washington, DC. This docket number is FAA-2005-20852; the directorate identifier for this docket is 2004-NM-240-AD.

**FOR FURTHER INFORMATION CONTACT:** David Lawson, Aerospace Engineer, Airframe and Propulsion Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, suite 410, Westbury, New York 11590; telephone (516) 228-7327; fax (516) 794-5531.

**SUPPLEMENTARY INFORMATION:** The FAA proposed to amend 14 CFR part 39 with an AD for certain Bombardier Model DHC-8-100, DHC-8-200, and DHC-8-300 series airplanes. That action, published in the Federal Register on April 6, 2005 (70 FR 17377), proposed to require revising the airworthiness limitations section of the Instructions for Continued Airworthiness by incorporating new and revised structural inspection procedures and new and revised inspection intervals for the longitudinal skin joints in the fuselage pressure shell. That AD also proposed to require phase-in inspections and repair of any crack found during any phase-in inspection.

## **Comments**

We provided the public the opportunity to participate in the development of this AD. No comments have been submitted on the proposed AD or on the determination of the cost to the public.

## **Explanation of Changes to the AD**

We have revised the applicability of the proposed AD to identify model designations as published in the most recent type certificate data sheet for the affected models.

We have changed the references to the Bombardier DHC-8 maintenance program support manuals in Table 1 of the proposed AD to reflect the way these documents are referenced in the de Havilland temporary revisions.

## **Conclusion**

We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

## **Costs of Compliance**

The following table provides the estimated costs for U.S. operators to comply with this AD.

<b>ESTIMATED COSTS</b>						
<b>Action</b>	<b>Work hours</b>	<b>Average labor rate per hour</b>	<b>Parts</b>	<b>Cost per airplane</b>	<b>Number of U.S.-registered airplanes</b>	<b>Fleet cost</b>
AWL revision	1	\$65	N/A	\$65	177	\$11,505
Phase-in inspection	25	65	N/A	1,625	177	287,625

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in subtitle VII, part A, subpart III, section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices,

methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD. See the ADDRESSES section for a location to examine the regulatory evaluation.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

# AIRWORTHINESS DIRECTIVE



Aircraft Certification Service  
Washington, DC

U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "[www.faa.gov](http://www.faa.gov)"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2005-13-38 Bombardier, Inc. (Formerly de Havilland, Inc.):** Amendment 39-14175. Docket No. FAA-2005-20852; Directorate Identifier 2004-NM-240-AD.

## Effective Date

- (a) This AD becomes effective August 9, 2005.

## Affected ADs

- (b) None.

## Applicability

- (c) This AD applies to Bombardier Model DHC-8-100, DHC-8-200, and DHC-8-300 series airplanes; certificated in any category; serial number 003 and subsequent.

**Note 1:** This AD requires revisions to certain operator maintenance documents to include new inspections. Compliance with these inspections is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by these inspections, the operator may not be able to accomplish the inspections described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance according to paragraph (l) of this AD. The request should include a description of changes to the required inspections that will ensure the continued damage tolerance of the affected structure. The FAA has provided guidance for this determination in Advisory Circular (AC) 25-1529.

## Unsafe Condition

- (d) This AD was prompted by a report indicating that visual inspections were not adequate for detecting fatigue cracking in portions of the longitudinal skin joints in the fuselage pressure shell. We are issuing this AD to detect and correct fatigue cracking of the longitudinal skin joints in the fuselage pressure shell, which could affect the structural integrity of the airplane, and result in loss of cabin pressurization during flight.

## Compliance

- (e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

## Revision of Airworthiness Limitation (AWL) Section

(f) Within 30 days after the effective date of this AD: Revise the AWL section of the Instructions for Continued Airworthiness by incorporating the contents of the applicable de Havilland temporary revision (TR) listed in Table 1 of this AD into the AWL section of the applicable Bombardier DHC-8 Maintenance Program Support Manual (PSM). Thereafter, except as provided by paragraphs (g) and (l) of this AD, no alternative structural inspection intervals may be approved for the longitudinal skin joints in the fuselage pressure shell.

**TABLE 1.—TEMPORARY REVISIONS TO AWL**

<b>DHC-8 model</b>	<b>de Havilland TR</b>	<b>Dated</b>	<b>For Bombardier DHC-8 maintenance Program Support Manual</b>
-102, -103, and -106 airplanes	AWL-92	June 28, 2004	PSM 1-8-7.
	AWL-93	June 28, 2004.	
-201 and -202 airplanes	AWL 2-31	June 28, 2004	PSM 1-82-7.
	AWL 2-32	June 28, 2004.	
-301, -311, and -315 airplanes	AWL 3-98	June 28, 2004	PSM 1-83-7.
	AWL 3-99	June 28, 2004.	

### Incorporation of TRs Into General Revisions

(g) When the information in the applicable de Havilland TR identified in Table 1 of this AD has been included in the general revisions of the applicable PSM identified in Table 1 of this AD, the general revisions may be inserted in the PSM, and the applicable TR may be removed from the AWL section of the Instruction for Continued Airworthiness.

### Phase-In Inspections

(h) At the times specified in paragraph (i) of this AD, perform the detailed and eddy current inspections, as applicable, of the longitudinal skin joints in the fuselage pressure shell specified in the de Havilland TR listed in Table 2 of this AD for the applicable de Havilland maintenance task card (MTC) in the specified MTC manual section of the applicable Bombardier DHC-8 PSM.

**TABLE 2.—TEMPORARY REVISIONS TO MTCS**

<b>DHC-8 model</b>	<b>de Havilland TR</b>	<b>Dated</b>	<b>Task No.</b>	<b>For Bombardier DHC-8 maintenance program support manual</b>
-102, -103, and -106 airplanes	MTC-45	November 28, 2003	5310/29E	PSM 1-8-7TC.
	MTC-46	November 28, 2003	5310/30A.	
-201 and -202 airplanes	MTC 2-45	November 28, 2003	5310/29E	PSM 1-82-7TC.
	MTC 2-46	November 28, 2003	5310/30A.	
-301, -311, and -315 airplanes	MTC 3-47	November 28, 2003	5310/29E	PSM 1-83-7TC.
	MTC 3-48	November 28, 2003	5310/30A.	

**Note 2:** For the purposes of this AD, a detailed inspection is: "An intensive examination of a specific item, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirror, magnifying lenses, etc., may be necessary. Surface cleaning and elaborate procedures may be required."

## **Compliance Times**

(i) Perform the inspections required by paragraph (h) of this AD at the applicable time specified in paragraph (i)(1), (i)(2), or (i)(3) of this AD.

(1) For all airplanes with 40,000 total flight cycles or less as of the effective date of this AD: At the times specified in the applicable TR to the AWL listed in Table 1 of this AD.

(2) For airplanes with more than 40,000 total flight cycles but less than 57,500 total flight cycles as of the effective date of this AD:

(i) For Model -102, -103, -301, -311, and -315 airplanes: Within 5,000 flight hours after the effective date of this AD or prior to the accumulation of 60,000 total flight cycles, whichever is first.

(ii) For Model -106, -201, and -202 airplanes: Within 5,000 flight hours after the effective date of this AD or prior to the accumulation of 60,346 total flight cycles, whichever is first.

(3) For all airplanes with 57,500 total flight cycles or more as of the effective date of this AD: Within 12 months or 2,500 flight cycles after the effective date of this AD, whichever is first.

(j) Repeat the inspections required by paragraph (h) of this AD thereafter at the intervals specified in the applicable TR to the AWL required by paragraph (f) of this AD.

## **Repair**

(k) If a crack is found in a longitudinal skin joint during any phase-in inspection required by paragraph (h) of this AD, and the MTC specifies contacting Bombardier for repair information: Before further flight, repair the affected longitudinal skin joint in accordance with a method approved by either the Manager, New York ACO; or Transport Canada Civil Aviation (or its delegated agent).

## **AMOCs**

(l) The Manager, New York ACO, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

## **Related Information**

(m) Canadian airworthiness directive CF-2004-16, dated September 7, 2004, also addresses the subject of this AD.

## **Material Incorporated by Reference**

(n) You must use the applicable de Havilland temporary revisions to the applicable Bombardier DHC-8 Maintenance Program Support Manual specified in Table 3 of this AD to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approves the incorporation by reference of these documents in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. To get copies of the temporary revisions, contact Bombardier, Inc., Bombardier Regional Aircraft Division, 123 Garratt Boulevard, Downsview, Ontario M3K 1Y5, Canada. To view the AD docket, go to the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., room PL-401, Nassif Building, Washington, DC. To review copies of the temporary revisions, go to the National Archives and Records Administration (NARA). For information on the availability of this material at the NARA, call (202) 741-6030, or go to [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

**TABLE 3.—MATERIAL INCORPORATED BY REFERENCE**

<b>de Havilland temporary revision</b>	<b>Dated</b>	<b>For Bombardier DHC-8 maintenance program support manual</b>
AWL 2-31	June 28, 2004	PSM 1-82-7.
AWL 2-32	June 28, 2004	
AWL 3-98	June 28, 2004	PSM 1-83-7.
AWL 3-99	June 28, 2004	
AWL-92	June 28, 2004	PSM 1-8-7.
AWL-93	June 28, 2004	
MTC 2-45	November 28, 2003	PSM 1-82-7TC.
MTC 2-46	November 28, 2003	
MTC 3-47	November 28, 2003	PSM 1-83-7TC.
MTC 3-48	November 28, 2003	
MTC-45	November 28, 2003	PSM 1-8-7TC.
MTC-46	November 28, 2003	

Issued in Renton, Washington, on June 21, 2005.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

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